



SPECTRUM HEALTH

The Medical Group

Opioid Use and Pain Management in Long-Term Care

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Disclaimer

I am an addiction medicine physician with primary boards in internal medicine

Therefore, this talk will be through the lens of an addiction provider though we will focus on risk mitigation strategies for treating patients with opioids

Agenda

Neurobiology of Tolerance and Addiction

Historical Perspective

Opioids in Chronic Pain – What's the Evidence?

CDC Chronic Pain Guidelines

Pain in the United States

Pain is a public health problem

- Affects at least 100 million American adults
- Costs society \$560-\$635 billion annually
- Federal and state costs almost \$100 billion annually
- Reduces quality of life

Recommendations for improving provider education on pain management practices and team-based care

Evaluation of risks and benefits of current pain treatment regimens

Improving patient education and self-management strategies

IOM. (2011) *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research*. Washington, DC: The National Academies Press.

HHS. (2016). National Pain Strategy from http://iprcc.hig.gov/National_Pain_Strategy/NPS_Main.htm

Pain in Michigan

Up to 3 million Michigan residents live with daily chronic pain

Pain affects more Michigan residents and Americans than diabetes, heart disease and cancer combined

In 2012, 73,715 Michigan residents were hospitalized for pain as the primary or secondary diagnosis. Of these:

- 72% were for chronic pain
- 5.2% were for cancer related pain

Opioid Use in Michigan

10th in nation for prescribing opioid pain relievers

18th in nation for overdose deaths

1,745 fatal drug poisonings in 2014

- 19.4% opioid related
- In 83% of overdose deaths, patient filled opioid script 30 days prior

Challenges

Co-morbidities, especially behavioral

Few evidenced-based models and virtually no long-term studies

Limited availability and access to behavioral health, integrated pain management, substance use programs

Provider reimbursement policies

Benefit design limits and cost sharing

Conundrum

Patients with persistent, ongoing pain experience endemic barriers to care, many related to non-existent or insufficient insurance coverage and reimbursement for evidence and consensus-based therapies

The result is a reductionist approach to pain management, whereby the default treatments are prescription (often opioids) and procedural rather than comprehensive, biopsychosocial approach called for by the IOM

Source: Minimum Insurance Benefits for Patients with Chronic Pain, A Position Statement from the American Academy of Pain Medicine

IOM. (2011) *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research*. Washington, DC: The National Academies Press.

HHS. (2016). National Pain Strategy from http://iprcc.hig.gov/National_Pain_Strategy/NPS_Main.htm

Pain

Pain Categorization

American Academy of Pain Medicine Categorization of Pain:

Category I pain is “eudynia”: pain that occurs as a symptoms of an underlying disease process

Category II pain is “maldynia”: pain that serves no useful purpose to the organism





Stages of Pain

Stage I: consequence of a brief noxious stimulus

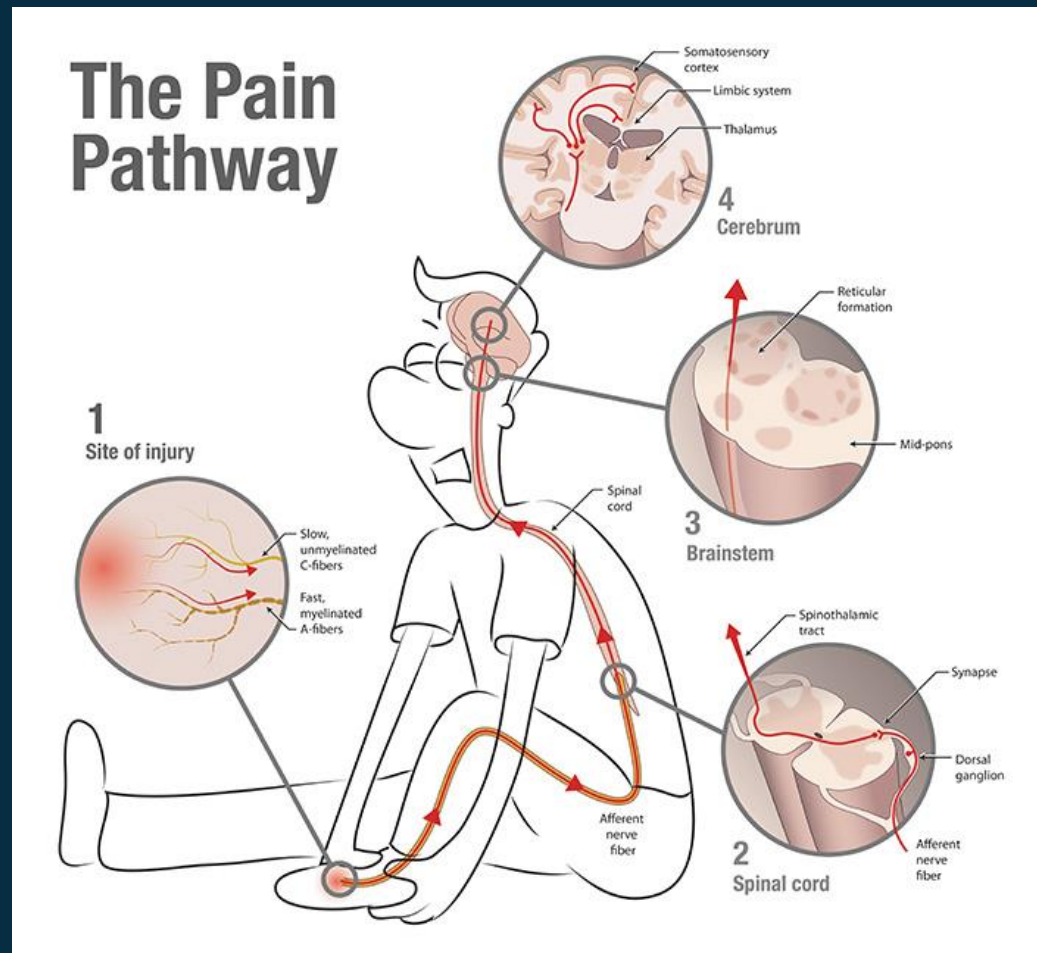
Stage II: consequences of a prolonged noxious stimulus leading to tissue damage and peripheral inflammation

Stage III: consequence of neurologic damage, including peripheral neuropathies, central pain states, and peripheral and central sensitization

NOT mutually exclusive!

Acute Pain

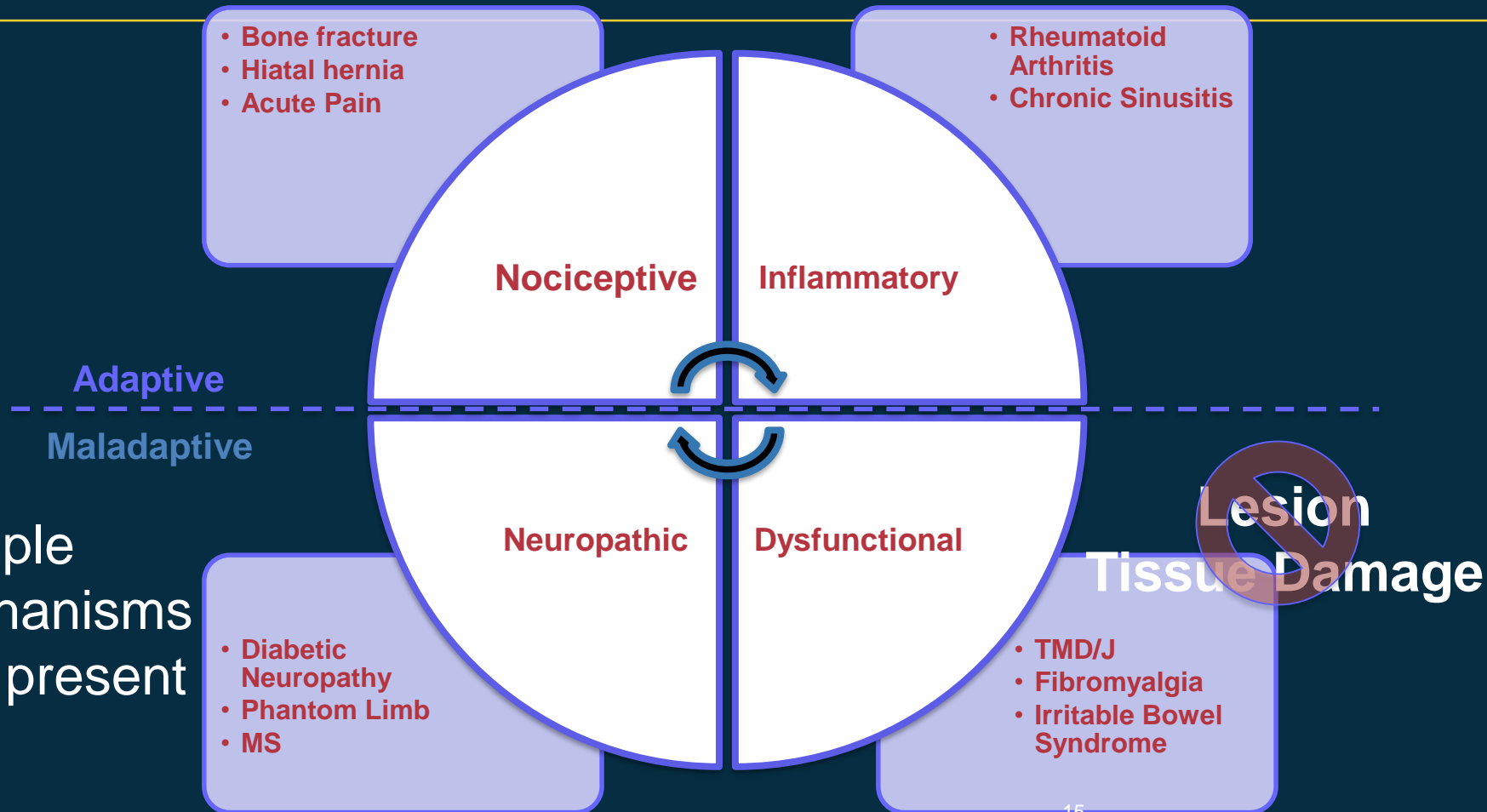
Well-established ability to prevent, minimize and manage acute pain.



Simple Stratification

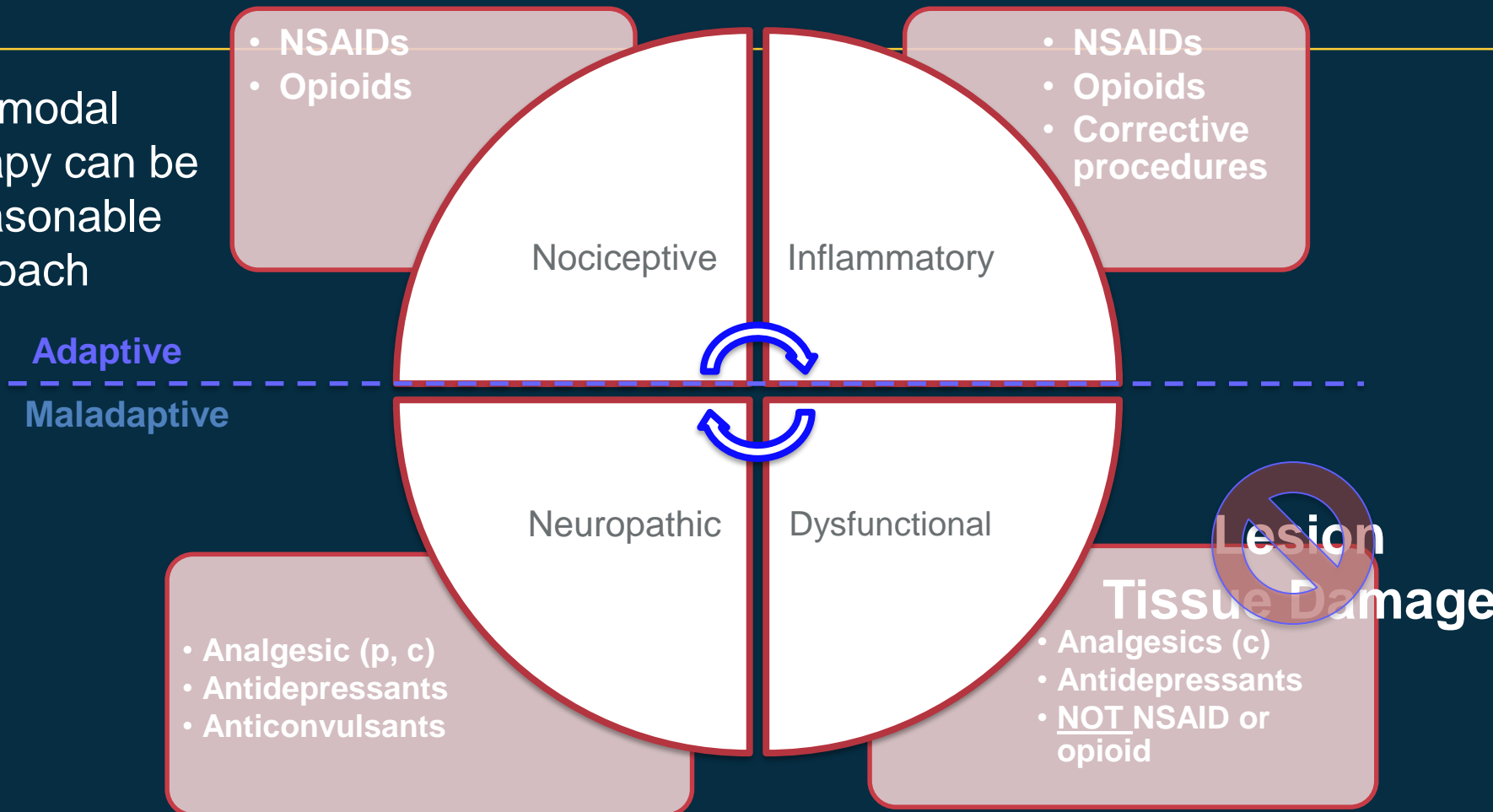
	Prevention	Treatment
Primary	Interventions to prevent pain from occurring	Mainly passive modalities directed towards pain relief to promote early healing of tissue
Secondary	Interventions intended to avoid chronic disability/ pain	Therapy driving programs intended to promote rehabilitation within a limited timeframe
Tertiary	Interventions to minimize the impact of chronic conditions	Individualized and intensive treatment for the small fraction of patients whose biomechanical dysfunction, physical deconditioning and psychosocial stressors have led to chronic, entrenched disability (Gatchel 2009)

Pain Classification by Mechanism



Pain Classification by Mechanism

Multimodal therapy can be a reasonable approach



Chronic Pain and Opioids



The benefits of opioid therapy for chronic nonmalignant pain beyond 6-8 weeks of treatment have not been demonstrated.

Treatment of chronic nonmalignant pain with opioids is less likely to achieve key outcomes – pain relief, improved quality of life and functionality.

Opioid Therapy for Chronic Pain:

12 week studies: pain reduced 30% compared to placebo

+/- functional improvement

Majority of patients stop opioids: - efficacy?

COT = less likely to return to work

Patients with SUD or other MH disorders are more likely to receive long term COT

>90 days COT = Long term: >1120mg ME = misuse

“Adverse Selection”: the likelihood of a patient receiving COT increases as the associated risks increase

Evidence for opiates

14 RCTs, 1201 patients, approximately 85/study

Short follow-up, most less than 14 weeks

Most compared opiate vs. placebo

Substance abusers excluded

Usually well defined pain causes (OA, RA)

13/14 showed benefit vs. placebo for pain
(Analgesia)

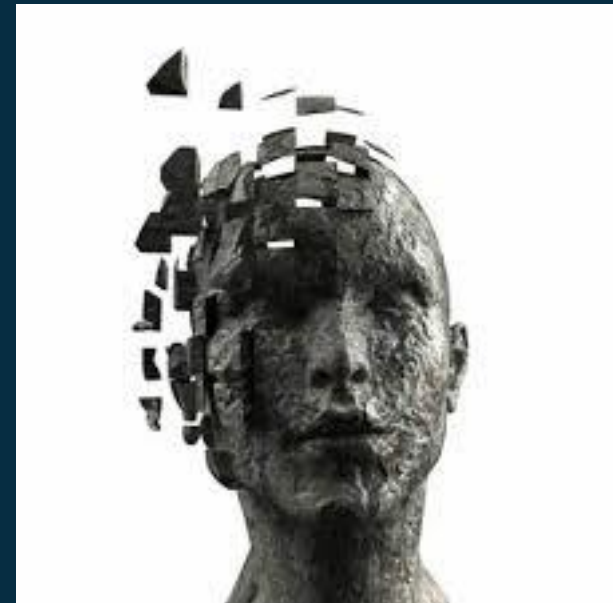
7/13 showed no benefit for function (ADLs)

Psychogenic Components of Pain

Pain predominantly described using affectively charged terms like agonizing, torturing, unbearable.

Scores higher than 10 on a 10 point scale.

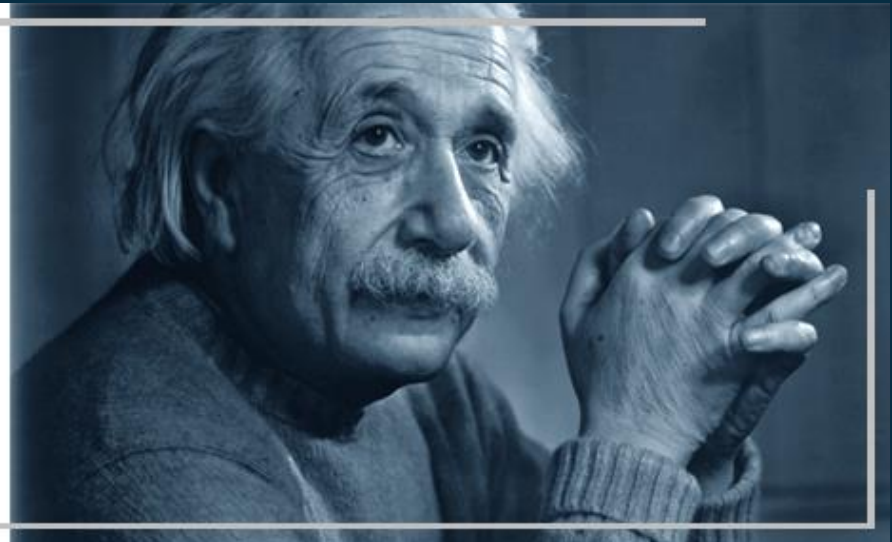
Bizarre locations, multiplicity of pain locations and pain outside the body suggest functional components.



Disability and Pain

Rest and inactivity decrease pain initially, but when prolonged have severe long-term consequences like deconditioning, depression, losses of identity, friendship, jobs.

"Everybody is a genius.
But if you judge a fish by its ability to climb a tree,
it will live its whole life believing that it is stupid."
- Albert Einstein



What is IMPACT?

The IMPACT study tested the
Collaborative Care Model on depressed,
older adults in an outpatient clinic

Collaborative Care Management of Late-Life Depression in the Primary Care Setting

A Randomized Controlled Trial

Jürgen Unützer, MD, MPH

Wayne Katon, MD

Christopher M. Callahan, MD

John W. Williams, Jr, MD, MHS

Enid Hunkeler, MA

Linda Harpole, MD, MPH

Marc Hoffing, MD, MPH

Richard D. Della Penna, MD

Polly Hitchcock Noël, PhD

Elizabeth H. B. Lin, MD, MPH

Patricia A. Areán, PhD

Mark T. Hegel, PhD

Lingqi Tang, PhD

Thomas R. Belin, PhD

Sabine Oishi, MSPH

Christopher Langston, PhD

for the IMPACT Investigators

MAJOR DEPRESSION AND dysthymic disorder affect between 5% and 10% of older adults seen in the primary care setting.¹⁻³ Late-life depression is often chronic or recurrent^{4,5} and is associated with substantial suffering, functional impairment, and diminished health-related quality of life.⁶ Depressed older primary care patients are

Context Few depressed older adults receive effective treatment in primary care settings.

Objective To determine the effectiveness of the Improving Mood–Promoting Access to Collaborative Treatment (IMPACT) collaborative care management program for late-life depression.

Design Randomized controlled trial with recruitment from July 1999 to August 2001.

Setting Eighteen primary care clinics from 8 health care organizations in 5 states.

Participants A total of 1801 patients aged 60 years or older with major depression (17%), dysthymic disorder (30%), or both (53%).

Intervention Patients were randomly assigned to the IMPACT intervention (n=906) or to usual care (n=895). Intervention patients had access for up to 12 months to a depression care manager who was supervised by a psychiatrist and a primary care expert and who offered education, care management, and support of antidepressant management by the patient's primary care physician or a brief psychotherapy for depression, Problem Solving Treatment in Primary Care.

Main Outcome Measures Assessments at baseline and at 3, 6, and 12 months for depression, depression treatments, satisfaction with care, functional impairment, and quality of life.

Results At 12 months, 45% of intervention patients had a 50% or greater reduction in depressive symptoms from baseline compared with 19% of usual care participants (odds ratio [OR], 3.45; 95% confidence interval [CI], 2.71-4.38; $P<.001$). Intervention patients also experienced greater rates of depression treatment (OR, 2.98; 95% CI, 2.34-3.79; $P<.001$), more satisfaction with depression care (OR, 3.38; 95% CI, 2.66-4.30; $P<.001$), lower depression severity (range, 0-4; between-group difference, -0.4; 95% CI, -0.46 to -0.33; $P<.001$), less functional impairment (range, 0-10; between-group difference, -0.91; 95% CI, -1.19 to -0.64; $P<.001$), and greater quality of life (range, 0-10; between-group difference, 0.56; 95% CI, 0.32-0.79; $P<.001$) than participants assigned to the usual care group.

Conclusion The IMPACT collaborative care model appears to be feasible and significantly more effective than usual care for depression in a wide range of primary care practices.

JAMA. 2002;288:2836-2845

www.jama.com

IMPACT Trial

1998 – 2003

1,801 depressed adults

18 primary care clinics –

- 8 health care organizations in 5 states
 - Diverse health care systems
 - Urban & semi-rural settings
 - Capitated (HMO & VA) & fee-for-service
 - 450 primary care providers

IMPACT Treatment Protocol

1. Assessment, Engagement, Patient Education
2. Behavioral Activation / Pleasant Events Scheduling

PLUS

3. a) Antidepressant Medication
Usually an SSRI or other newer antidepressant

AND / OR

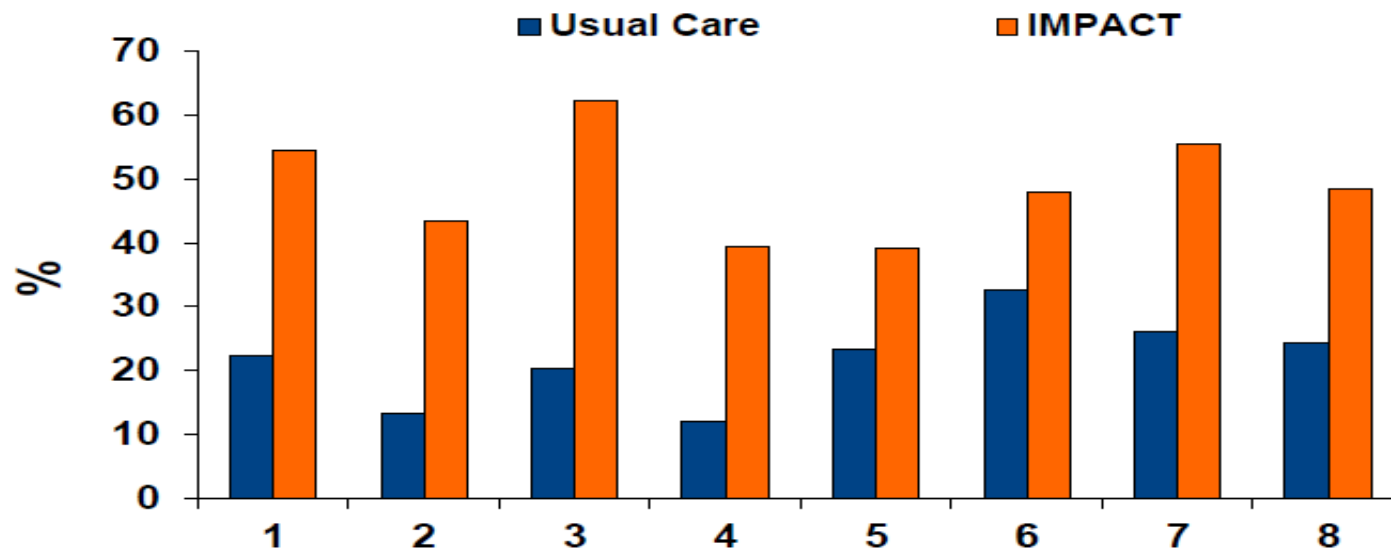
- b) Problem-Solving Treatment in Primary Care (PST-PC)
6-8 individual sessions

4. Maintenance and Relapse Prevention Plan once better



IMPACT Findings Robust Across Diverse Organizations

50% or greater improvement in depression at 12 months



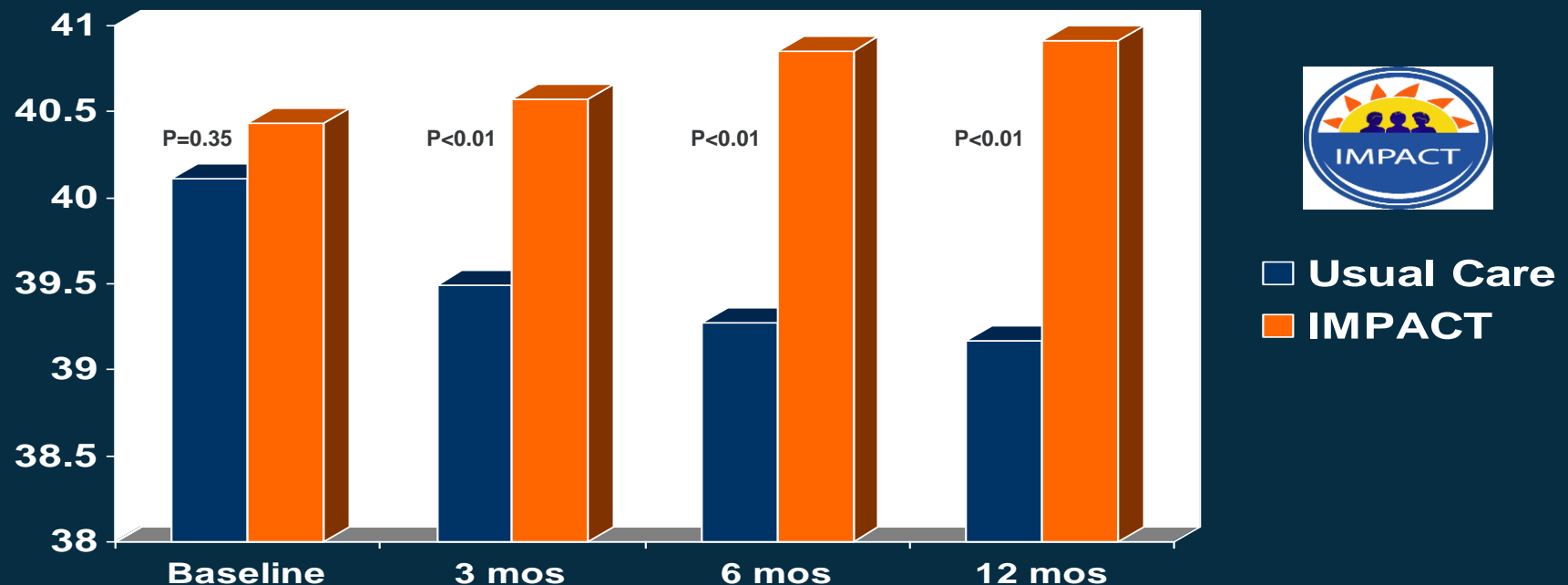
Participating Organizations

Unützer et al., *JAMA*, 2002;
Psych Clin N America, 2004

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Improves physical function...

SF-12 Physical Function Component Summary Score (PCS-12)



... and Reduces Health Care Costs

ROI: \$6.5 saved / \$1 invested

Cost Category	4-year costs in \$	Intervention group cost in \$	Usual care group cost in \$	Difference in \$	Savings ↓
IMPACT program cost		522	0	522	
Outpatient mental health costs	661	558	767	-210	
Pharmacy costs	7,284	6,942	7,636	-694	
Other outpatient costs	14,306	14,160	14,456	-296	
Inpatient medical costs	8,452	7,179	9,757	-2578	
Inpatient mental health / substance abuse costs	114	61	169	-108	
Total health care cost	31,082	29,422	32,785	-\$3363	

Replication studies: Collaborative Care

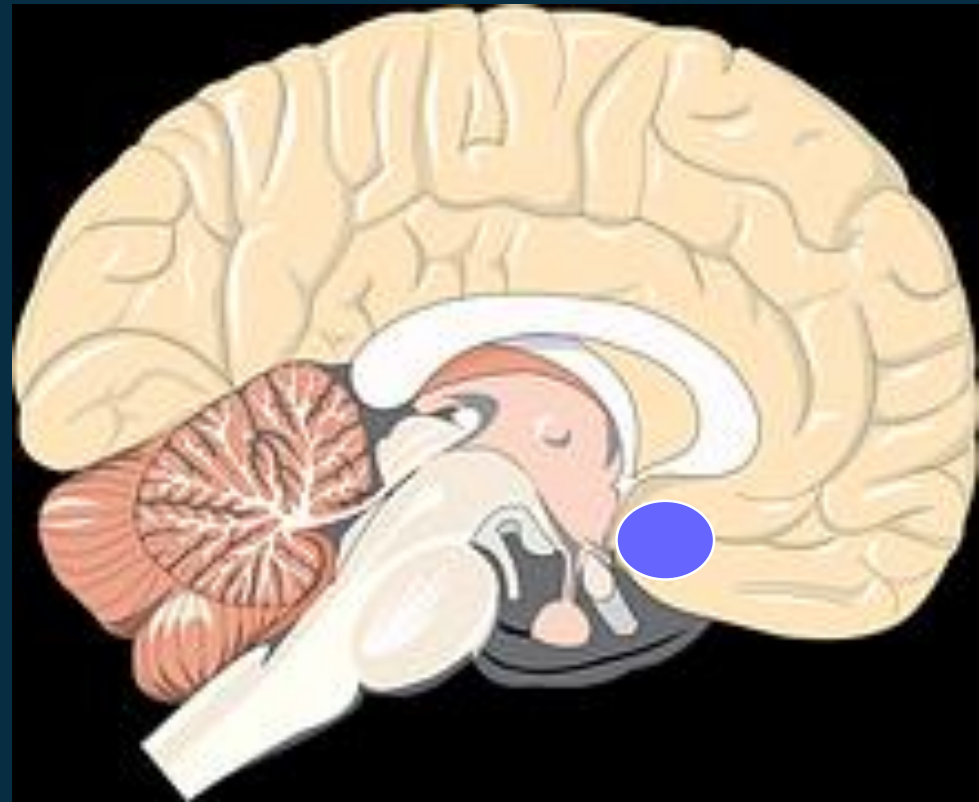
Patient Population (Study Name)	Target Clinical Conditions	Reference
Adult primary care patients (Pathways)	Diabetes and depression	Katon et al., 2004
Adult patients in safety net clinics (Project Dulce; Latinos)	Diabetes and depression	Gilmer et al., 2008
Adult patients in safety net clinics (Latino patients)	Diabetes and depression	Ell et al., 2010
Public sector oncology clinic (Latino patients)	Cancer and depression	Dwight-Johnson et al., 2005 Ell et al., 2008
Health Maintenance Organization	Depression in primary care	Grypma et al., 2006
Adolescents in primary care	Adolescent depression	Richardson et al., 2009
Older adults	Arthritis and depression	Unützer et al., 2008
Acute coronary syndrome patients (COPES)	Coronary events and depression	Davidson et al., 2010

Opioid Use Disorder in the Elderly

Neurobiology: Nucleus Accumbens

“The GO Center!”

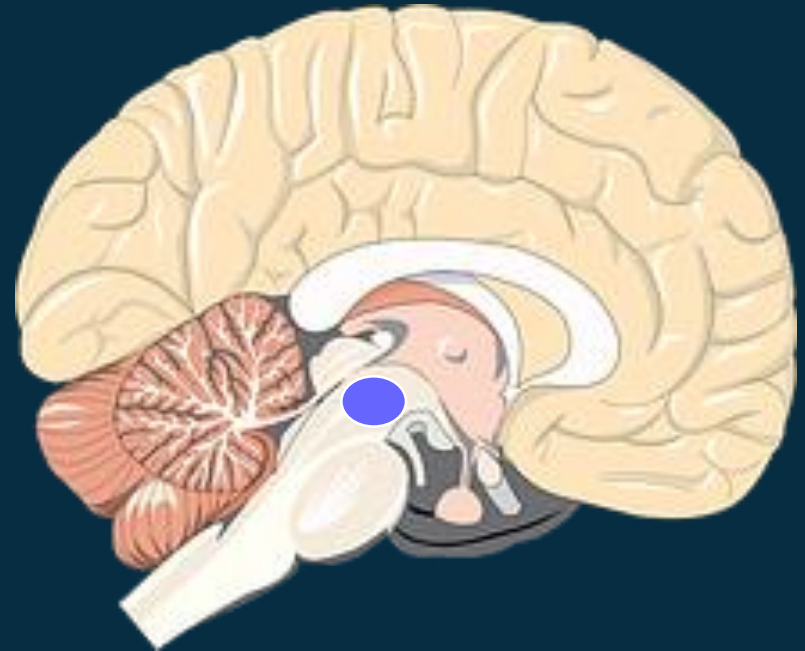
- Pleasure Center
- Responds to:
 - Dopamine
 - Drugs
 - Food
 - Sex
- Sends reinforcing signals to the frontal cortex



Neurobiology: Ventral Tegmental Area

The “Gas Tank”

- Supplies dopamine to the Nucleus Accumbens
- Dopamine is our “feel good” brain chemical





Neurobiology: Frontal Cortex

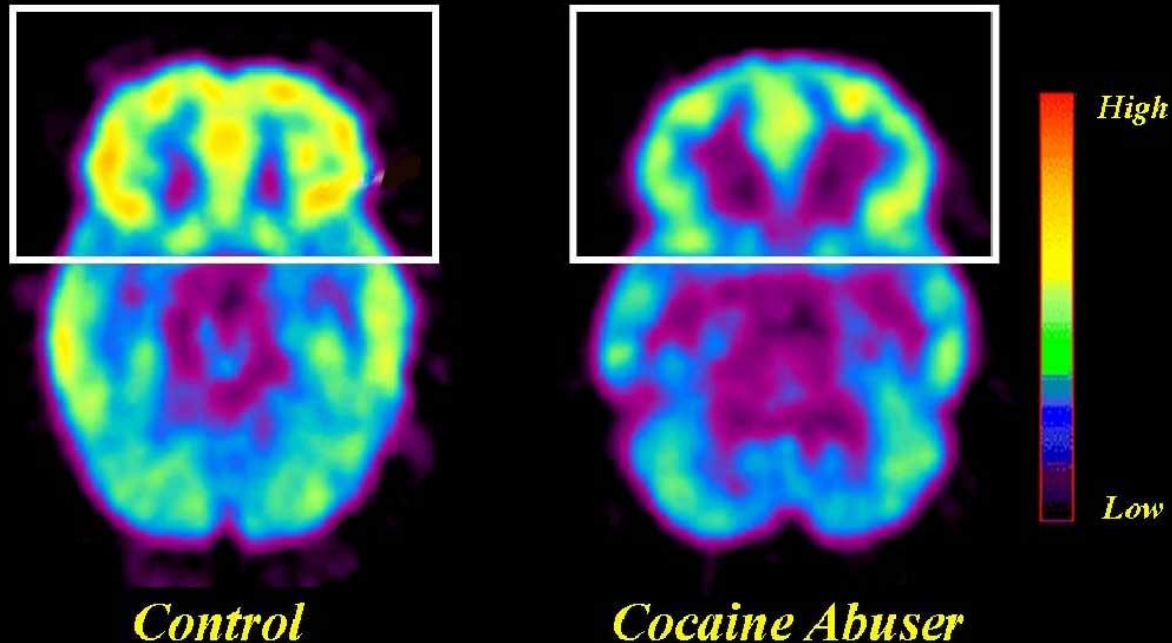
The “CEO”: puts the BRAKES on!

- Not fully developed until late 20's
 - Average age of first use: 12



Brain Changes

Disruption in Brain Circuits Involved in Reward and Punishment



Addiction “Hijacks” the Brain

The CEO is unable to STOP the information flow and the “immature” areas of the brain take over.

If the frontal cortex is not developed at onset of use, it remains underdeveloped.



Conclusion

- Addiction is a biologic disease resulting in characteristic signs and symptoms

Thou shalt not

Thou shalt not

Thou shalt not

Dependence vs. Substance Use Disorder

- Physiological Dependence
 - Natural bodily adaptation to consistent use
 - Tolerance/withdrawal
 - Control may be intact
- Psychological Dependence
 - “Needing” the substance to cope with a problem/life
 - Loss of control
 - Conditioning/habits
- Substance Use Disorder
 - Combination of the above, generally plus consequences

Pain and Addiction Interface

Pain and drug reward share common neuroanatomic and neurochemical substrates.

The physiologic sequelae of addiction have clear effects on pain management.

Drugs of abuse often have analgesic and hyperalgesic properties.

The disease of addiction brings with it physical symptoms, mood states, behaviors and social losses that serve to worsen the pain experience.

Discontinuation of Chronic Opioid Therapy

If opiates are no longer achieving their goals

- improved pain
- stable or improving function
- enhanced quality of life

Pain resolves

Withdrawal

Upon abrupt withdrawal, the tolerance-producing processes are revealed as homeostatic changes associated with tolerance predominate and become nonadaptive.

Unopposed by drug effects, the “antireward” effects dominate as the characteristic autonomic and affective withdrawal symptoms.

Typical Withdrawal Symptoms



Cold shakes.



Chills and sweating.



Fever-like symptoms.



Mood swings.



Anxiety and depression.



Bone pain.



Vomiting.



Insomnia.



Diarrhea.

Treatment

- FDA-approved medications treat the biological component of the disease by stabilizing the brain structures
- 30% of treatment programs currently offer medication
 - Less than ½ of eligible patients receive medications



Types of MAT

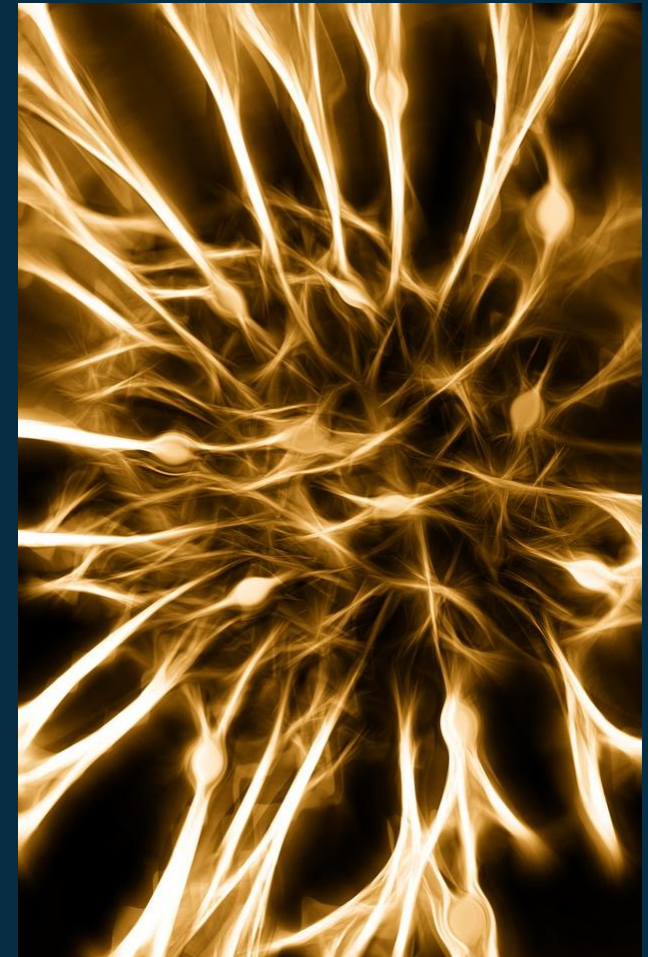
Medications are used in the treatment of Opioid Use Disorders

Generic	Name Brand	Condition Treated
Naltrexone	Vivitrol	Alcohol / Opioid
Methadone	Dolophine, Methadose	Opioid
Buprenorphine/Naloxone	Suboxone / Zubsolv / Bunavail	Opioid

Opioid Action on the Brain

Changes the structure of the brain to decrease resilience likely due to precipitated events like early life trauma

Altered brain *structure* during development



MAT as Brain Stabilization

The commonality between each of these medications is they are used to stabilize brain structures that are over-activated by the presence of opioids

They make it so that the persons brain can heal the thought patterns that dictate the behaviors

They stay in the brain providing a consistent message to the receptors rather than going in-and-out resulting in destabilization

Without this stabilization, people with addiction in treatment are more likely to relapse

Those receiving medications as part of their treatment are **75% less likely to die** because of addiction than those not receiving medications

Methadone

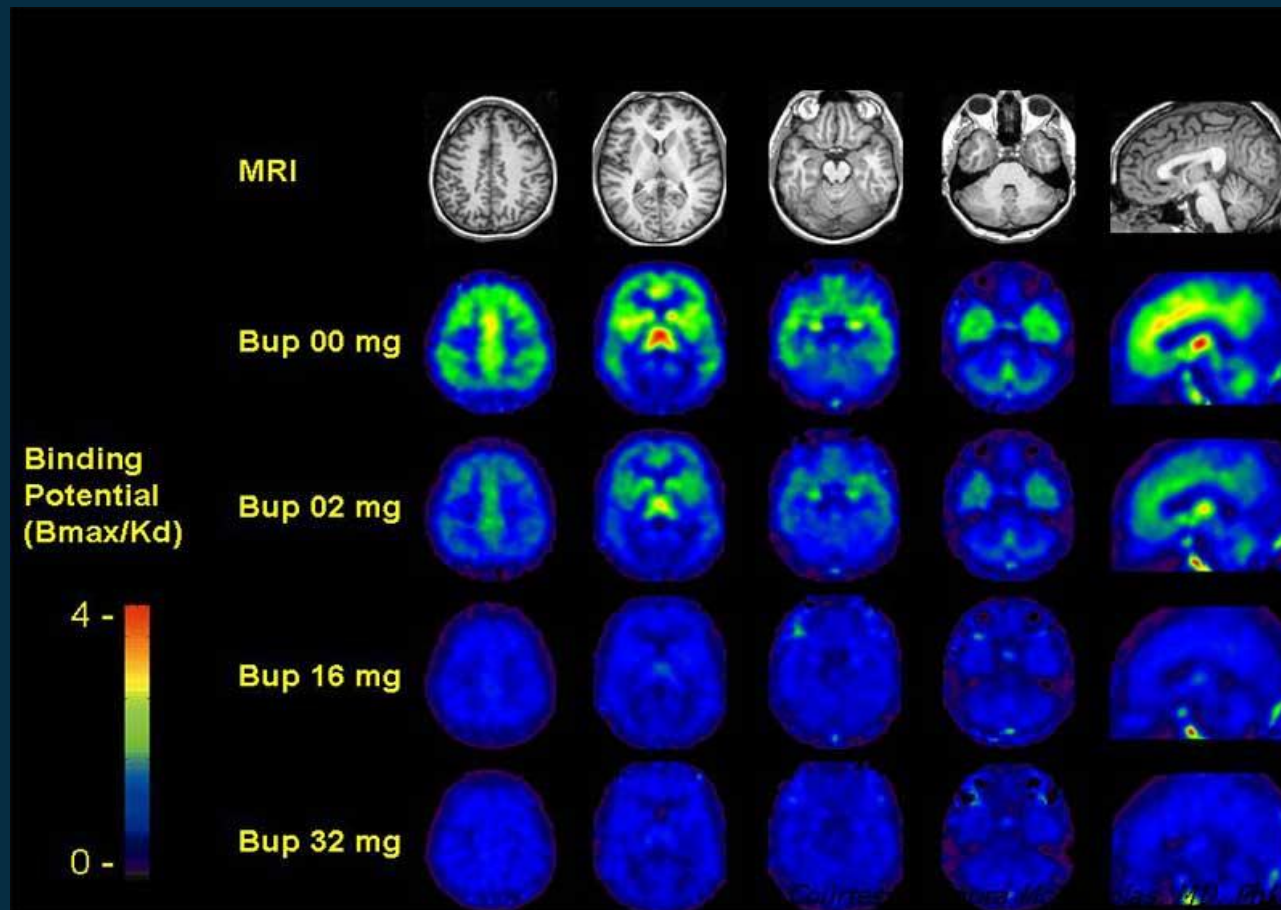
- It is an opioid, but is different than others by its staying power in the receptor
- Must be done in a highly structured environment – daily dosing at a clinic is federally regulated
- Doses are much *higher* than used in treatment of pain and given once daily
- For individuals with *severe opioid use disorder*

I imagine this is not really practically done in Long-Term Care

Buprenorphine

- It is an opioid, but is different than others by its staying power in the receptor and ceiling effect
- Can be prescribed by a *waivered* physician
- Taken under the tongue for absorption
- For individuals with *mild, moderate or severe opioid use disorder*

Buprenorphine's Action in the Brain



Ceiling Effect

Buprenorphine turns on the receptors “part-way” so once all the receptors have medication, there is still part of the receptor activity that is not activated

Minimizes risk for overdose in an *opioid tolerant* individual

Naltrexone

Opioid blocker so it is *not an opioid*

Can be used in both alcohol and opioid use disorders

Can be either a daily pill or monthly injection

Thank you

Just when the
caterpillar
thought the world
was over, it
became a
butterfly...

-Proverb

Contact information:

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To all the people who have lost their lives to addiction and those that try to prevent further losses.





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